

occurred at intervals in the interior of New England, were successfully forecast.—*J. W. Smith, Forecast Official.*

NEW ORLEANS FORECAST DISTRICT.

The following special warning was issued at 12:15 p. m. of the 18th: "Squalls, with brisk and occasionally high winds are indicated for the west Gulf this afternoon and to-night." Unusually severe squalls occurred Sunday afternoon and night over southern Texas and along the coast. At Goliad, Tex., a tornado killed 200 people and destroyed much property.—*J. M. Cline, Forecast Official.*

CHICAGO FORECAST DISTRICT.

No severe storms occurred on the upper lakes, and no mishaps of moment were reported. Frosts occurred in the western Lake region and in the Northwest several times during the month. Previous to their occurrence warnings were generally issued, and it is not thought that any serious damage resulted. There were a number of thunderstorms during the month, which caused an unusually large amount of rainfall in nearly all sections, making up to a large extent for the drought which prevailed during the fall and winter. These thunderstorms were almost invariably correctly forecast.—*H. J. Cor, Professor.*

DENVER FORECAST DISTRICT.

Special warnings were given distribution on the 18th for the heavy frost that visited Utah and western Colorado. Frosts that occurred in the agricultural districts on other dates, except in northern New Mexico, were generally covered in the daily forecasts.—*F. H. Brandenburg, Forecast Official.*

SAN FRANCISCO FORECAST DISTRICT.

An area of high pressure off the central coast on May 17 and, at the same time, an extensive trough of low pressure over the Rocky Mountain region, were accompanied by high winds generally in California and Nevada. Especially in the vicinity of Point Reyes did the winds reach a high velocity; a maximum of 108 miles and an extreme velocity of 120 miles being reported at that station on the 18th.—*A. G. McAdie, Professor.*

PORTLAND, OREG., FORECAST DISTRICT.

No severe storms occurred during the month. Frosts which, as a rule, were accurately forecast occurred frequently in the eastern sections from the 2d to the 5th, and occasionally until the close of the month.—*E. A. Beals, Forecast Official.*

RIVERS AND FLOODS.

The mean stages in the upper Mississippi River averaged from 2.5 to 5.5 feet higher than during the preceding month. They were also somewhat higher than during the correspond-

ing period of the preceding year. The lower Mississippi, the Ohio, and the Tennessee, fell steadily, but remained at an excellent navigable stage at the close of the month.

The rivers of the East and South were lower, except the Brazos, where there was a considerable rise, due to heavy local rains. During the last days of the month there was also a sharp rise in the Arkansas River on account of continued heavy rains over its upper watershed, and some reports of flooding and damage were received from the Kansas portion.

West of the Rocky Mountains the feature of interest was the annual rise of the Columbia River which began on the 15th of the month. Its coming was well heralded, and ample time was afforded for all necessary preparations.

The highest and lowest water, mean stage, and monthly range at 138 river stations are given in Table VII. Hydrographs for typical points on seven principal rivers are shown on Chart V. The stations selected for charting are: Keokuk, St. Louis, Memphis, Vicksburg, and New Orleans, on the Mississippi; Cincinnati and Cairo, on the Ohio; Nashville, on the Cumberland; Johnsonville, on the Tennessee; Kansas City, on the Missouri; Little Rock, on the Arkansas; and Shreveport, on the Red.—*H. C. Frankenfield, Forecast Official.*

AREAS OF HIGH AND LOW PRESSURE.

Movements of centers of areas of high and low pressure.

Number.	First observed.			Last observed.			Path.		Average velocity.	
	Date.	Lat. N.	Long. W.	Date.	Lat. N.	Long. W.	Length.	Duration.	Daily.	Hourly.
High areas.										
I.....	*29, p.m.	50	100	4, p.m.	46	60	2,250	5.0	450	18.8
II.....	2, p.m.	41	124	7, a.m.	45	64	3,550	4.5	789	32.9
III.....	7, p.m.	54	114	8, a.m.	38	86	3,350	5.5	609	25.4
IV.....	12, p.m.	53	108	12, p.m.	46	60	2,900	5.0	580	24.2
V.....	20, a.m.	48	86	17, a.m.	32	65	2,875	4.5	639	26.6
VI.....	24, p.m.	54	114	23, a.m.	32	65	1,900	3.0	633	26.4
VII.....	30, a.m.	48	86	30, a.m.	36	76	2,450	5.5	445	18.6
				31, p.m.	41	70	900	1.5	600	25.0
Sums.....							20,175	34.5	4,745	197.9
Mean of 8 paths.....							2,522		593	24.7
Mean of 34.5 days.....									585	24.4
Low areas.										
I.....	*30, a.m.	41	112	4, a.m.	32	65	3,350	4.0	838	34.9
II.....	2, p.m.	38	105	6, a.m.	46	60	2,700	3.5	771	32.1
III.....	5, p.m.	41	97	7, p.m.	48	68	1,600	2.0	800	33.3
IV.....	5, p.m.	32	94	8, a.m.	35	76	1,050	1.5	700	29.2
V.....	6, p.m.	54	114	10, a.m.	46	60	2,550	3.5	728	30.3
VI.....	17, a.m.	46	106	20, p.m.	51	104	2,000	3.5	571	23.8
VII.....	25, a.m.	42	83	28, a.m.	48	68	975	3.0	325	13.5
Sums.....							14,225	21.0	4,783	197.1
Mean of 7 paths.....							2,032		676	28.2
Mean of 21.0 days.....									678	28.2

*April.

For graphic presentation of the movements of these highs and lows see Charts I and II.—*Geo. E. Hunt, Chief Clerk, Forecast Division.*

CLIMATE AND CROP SERVICE.

By JAMES BERRY, Chief of Climate and Crop Service Division.

The following summaries relating to the general weather and crop conditions are furnished by the directors of the respective sections of the Climate and Crop Service of the Weather Bureau:

Alabama.—Conditions favorable for cultivation, but generally too dry for late planted staple crops, particularly so in some northern counties, where a drought, which began about April 17, continued practically unbroken.—*Frank P. Chaffee.*

Arizona.—Unseasonably cold weather, extreme aridity of the atmosphere, high, drying winds, and an insufficient supply of water in the irri-

gated districts, combined to produce very unfavorable conditions for plant development during the month. The quality of the hay crop was below the average. The ranges had a scanty supply of feed and water, and were deteriorating at close of month.—*Wm. G. Burns.*

Arkansas.—The weather conditions during the month were generally favorable for farming operations, and work progressed rapidly. Corn planting was completed in some localities during the first week, and was completed in all sections by the close of the month. The early planted had generally come up to good stands and cultivation was well under way; some had been laid by during the last week. Cotton had begun to come up by the second week and was being chopped out in many sections;

its growth was retarded by the cool nights about the middle of the month, but during the third week it was making vigorous growth, which was again checked during the closing days of the month by the general rains and abnormally low temperatures; some fields were badly in grass, but on the whole, the crop was in good condition. Wheat and oats had improved, and generally were in good condition; some were ripening and heading, and harvesting had begun in localities. Potatoes generally were in good condition and marketing had begun. Fruits of all kinds presented fair prospects, although peaches and apples had commenced to drop in some sections.—*Edward B. Richards.*

California.—The temperature was below normal nearly all the month, and the development of fruit and grain was somewhat retarded. High winds from the 16th to 19th caused slight damage to deciduous fruits, and grain and hay were slightly damaged by rain. Crop prospects continued good in most places north of the Tehachapi. Fruit prospects were very good, except prunes and pears in some localities.—*Alexander G. McAdie.*

Colorado.—For the State as a whole the weather conditions during May were unfavorable. In the northeastern counties where precipitation was timely vegetation made normal advancement; elsewhere the month was marked by a drought of more or less severity. In the western counties the lack of rainfall was not seriously felt, while in San Luis Park, the Arkansas Valley, and the counties near the eastern foothills the scarcity of water for irrigation was as pronounced as occurs occasionally late in summer, and vegetation generally made little or no progress; replanting of beets became necessary in localities, and plowing for corn and potatoes proceeded slowly in the dry soil. Fortunately, the much needed moisture came before vegetation was past reviving. About the middle of the third decade showers occurred over the greater part of the State, the precipitation being unusually copious in the southern counties where the drought had been of long standing. The month closed with a good outlook for the majority of crops, good pasturage assured, and indications for an excellent fruit crop.—*F. H. Brandenburg.*

Florida.—The month was dry and, to a large extent, unfavorable to crop growth, although farm work was prosecuted with energy and the close of the month found all crops about free of grass. Cotton made good progress, as a rule, and the early planted took on considerable fruit. Corn suffered severely. Peaches were small and rather inferior. Pine-apples were late, and fruit will be small if dry weather persists much longer. Citrus fruits have suffered much damage; quite half the crop in some sections has been lost. As yet but a small acreage has been set to sweet potatoes.—*A. J. Mitchell.*

Georgia.—The temperature was decidedly above the normal. A very warm period occurred from the 3d to the 7th, inclusive, and a cool period from the 27th to the 30th, inclusive. The rainfall for the State at large was deficient, notably so in the northwestern counties, where the monthly totals were under 1 inch. Over the southern half of the State the precipitation was unevenly distributed; it was in excess of the usual amount in a few counties, mainly in the south-central portion. The weather was favorable for farm work and the cultivation of crops, and the latter were in good condition at the close of the month with respect to cultivation. Cotton and corn made good progress and were unusually promising. The dry weather caused short yields of wheat and oats. Fruit prospects were not flattering.—*J. B. Marbury.*

Idaho.—A very favorable month for growth of all crops, and at its close the prospects were excellent for large yields of alfalfa, timothy, crimson clover, fall and spring sown wheat, and oats. Apple, prune, and pear trees were heavily laden. There was a cold, frosty period from the 16th to 20th, during which the temperature fell below the freezing point in many sections.—*S. M. Blandford.*

Illinois.—The month of May was generally warm, though there were periods of cool weather, during which light frosts occurred. These, however, caused no material injury to vegetation. Good rains occurred during the month over most of the State; some localities, especially in the northern district, received such heavy rains as to interfere considerably with farm work, while in a few others the rain was too light to meet the requirements of vegetation. As a result of the favorable conditions crops of all kinds have made good growth, and their condition at the end of the month showed a decided improvement over that at the beginning. The fruit prospects were not favorable generally, but in some localities they were good.—*M. E. Blystone.*

Indiana.—Frequent rains in the northern section delayed field work more or less throughout the month, and general rains from the 19th to 25th interrupted corn planting and plowing in all sections, and in some of the southern counties damaged corn and other crops by washing and inundation. Frosts on the 27th, 28th, and 29th damaged garden truck materially and corn slightly in the northern and central sections. Corn planting and replanting were completed during the month, except in the northern section where the ground had been too wet, and in a few other localities where the first planting had been destroyed by cut worms or washing rains. Wheat improved, but promised only a light crop. At the close of the month rye was in excellent condition and heading; oats, clover, potatoes, and all minor field crops were doing very well.—*W. T. Blythe.*

Iowa.—The month was warmer than usual with more than the normal amount of rainfall, with very unequal distribution, the range being from

less than an inch to more than 18 inches. Frequent rainy days interrupted farm work, and the period of corn planting was extended practically through the month; but a large acreage was planted and germination was generally quick and satisfactory. A good stand of corn was secured, with not more than usual replanting. Small grain and grass made very vigorous growth in all portions where there was ample moisture. On the whole May was a favorable month for crops.—*John R. Sage.*

Kansas.—Month warm and wet and favorable to crop growth. Wheat improved rapidly, and by close of month early wheat in the south was ready to harvest. Corn was a good stand and grew rapidly, but was getting weedy, with ground too wet to cultivate. Oats and grass greatly improved. Alfalfa cutting interfered with by wet weather.—*T. B. Jennings.*

Kentucky.—The month was fairly favorable and growing crops advanced well. No damaging conditions of any extent were reported. About half the tobacco crop was set by the end of the month and started off well. Plants were scarce in the central and eastern portions of the State. The planting of corn was finished and the crops progressed fairly well. Wheat improved slightly, but only about half a crop can be expected; oats and rye were in fairly good condition. Gardens and potatoes were doing well. Fruit was not promising; there were few peaches and apples were dropping badly.—*H. B. Hersey.*

Louisiana.—The weather during the month was generally favorable for farming operations. Cotton planting was completed, and good stands were secured generally; cultivation kept pace with the growth of the plant; early cotton was forming squares and blooming over the central and southern portions of the State at the close of the month. Sugar cane made good growth, and the crop was kept in a good state of cultivation. Rice seeding was completed during the month and good stands were secured generally. Early rice had commenced heading at the close of the month. Corn made good growth, and the bulk of the crop was plowed the last time.—*I. M. Cline.*

Maryland and Delaware.—The several periods of quite low temperatures, and the prevailing dryness, were hurtful to all crops. Corn did well, however, and clean fields and good stands were generally reported; at the end of month early wheat promised ordinary to fair returns, but late sown wheat was everywhere poor and thin; oats and rye were in poor condition; grasses suffered from the drought. Tobacco transplanting was accomplished as "seasons" permitted, and about half the crop was out; the stands were uneven on account of plants dying in the field. Fruit prospects deteriorated greatly in the west, but were fair in the eastern counties for peaches, but less satisfactory for apples, pears, and plums. All garden truck was hurt by the dry spell; potatoes held up fairly well; strawberries and peas yielded poorly. The 17-year locusts appeared in many localities, and did some damage to young fruit trees.—*Oliver L. Fassig.*

Michigan.—The month was generally favorable for the growth of crops and the germination of spring seeding, but frequent and abundant showers interfered more or less with field work. The first half of the month was rather cool, and frosts of more or less severity occurred during all three decades, but the damage was generally very light. The condition of winter wheat, rye, meadows, and pastures improved steadily throughout the month. Oat seeding germinated nicely, and at the close of the month oats were in promising condition. Peas and barley also germinated nicely and were doing well. Sugar beet seeding was general after the first week of the month; at the close of the month the beets had mostly germinated, and thinning and cultivation were in progress. Early potatoes were mostly planted by the 10th, and at the close they had germinated nicely and were being cultivated. Corn planting was well under way by the middle of the month, and by the 20th the bulk had been planted; it germinated slowly, but came up nicely and was attaining a good stand at the close of the month. Fruit of all kinds continued promising throughout the month, not having suffered any damage from frosts.—*C. F. Schneider.*

Minnesota.—The western parts of Marshall, Polk, and Norman counties, in the Red River Valley, continued very wet till after the middle of the month and no work was possible; considerable wheat was sown on these lands for a few days after the 22d, and then barley, oats, flax, and potatoes were put in. In other parts of the State the soil was in excellent condition most of the month and all the small grains grew well and stood satisfactorily. Rye was headed late in the month, and winter wheat was heading. Most of the corn and potatoes were planted and before the end of the month they were being cultivated. Flax seeding went on all the month on new land; the early sown was growing nicely. The hay crop promises to be a large one. The middle of the month was showery and cool. There was considerable snow in northern portions on the 9th, and there were frosts on the morning of the same date, but without injury.—*J. T. Outram.*

Mississippi.—The rainfall was poorly distributed, being heavy in the southern and extreme western counties and deficient in the northeastern portion of the State. The planting of cotton was completed during the first of the month, but owing to the dryness of the soil the seed germinated slowly; however, by the close of the month the late planted cotton was up and being chopped to stands. Early planted cotton was kept clean and generally made a vigorous growth; squares were commencing to form. Corn did well throughout the month and during the last week

was beginning to tassel. Where moisture was sufficient oats did fairly well, but, on the whole, they deteriorated. Minor crops made a satisfactory growth. Gardens yielded well.—*W. S. Belden.*

Missouri.—Except in a few of the northern and eastern counties, where a deficiency in precipitation retarded the growth of oats, pastures, and meadows, the weather conditions during the month were, on the whole, very favorable to the farmer. Corn came up to good stands and made good progress. Wheat continued unusually promising, though there was some complaint of rust and lodging, and oats did well, as a rule. Meadows improved rapidly during the latter part of the month, but many old meadows were very weedy. Cotton, flax, rye, and all minor crops made good growth, but the outlook for the apple crop was not encouraging; many orchards in the northern counties were defoliated by caterpillars and in the central and southern sections there was complaint of dropping.—*A. E. Hackett.*

Montana.—The weather was favorable for growing crops throughout the State, except in Carbon County, where a drought prevailed, the ground being so dry that the grain sown would not germinate.—*E. J. Glass.*

Nebraska.—May was a most favorable month for the growth of all vegetation, being warm with an excess of precipitation, which came in gentle all day rains, without high wind, in nearly every instance. Winter wheat improved wonderfully, while oats and grass made excellent growth. Potatoes developed so well as to indicate a large crop. The fruit with the exception of apples did not recover from the effects of the unseasonable weather of April.—*G. A. Loveland.*

Nevada.—The temperature throughout the month was about normal, but the precipitation was quite deficient all over the State, being about one-third of the usual amount for May. Damaging frosts occurred during the first and second decades, doing more or less damage to alfalfa, fruit buds, and garden truck in various parts of the State. Range feed was fairly good, and livestock improved in condition. At the close of the month all crops were looking well, but very backward.—*J. H. Smith.*

New England.—The weather of the month, generally considered, has not been the most favorable for crops and farm work. In the northern part of the section there was an excess of rainfall, which delayed planting and the growth of crops; in the southern portion there was a deficiency of rainfall, and in some parts it was hardly appreciable, the absence of needed rainfall dwarfing the growth of grass and crops. Cool nights prevailed throughout the month, with frosts, which did more or less damage to fruit, and delayed the growth of vegetation.—*T. L. Bridges.*

New Jersey.—Owing to the great deficiency of rainfall and low night temperatures vegetation generally has made slow progress. Freezing temperature on the morning of the 29th did great injury to tender vegetation, especially in Ocean and Burlington counties.—*Edward W. McGinn.*

New Mexico.—Precipitation confined mostly to the mountains. Until the latter part of month a severe drought prevailed over the plains, especially in the northeast, which was favorable to the lambing season in those sections, but planting was much delayed.—*R. M. Hardinge.*

New York.—Great extremes of temperature with killing frosts on 10th, followed by several frosty nights and heavy frosts in places on 29th. Early garden truck and fruit greatly damaged, especially peaches, cherries, plums, and early apples and pears. Late apples and grapes suffered but little. Weather for first twenty days was too cool and dry, followed by warm weather for a few days, but it was again cool by the end of the month. The month was favorable for work, but too dry for hay, which, however, was improved by later rains.—*R. G. Allen.*

North Carolina.—Conditions during May were very suitable for the advancement of farm work, as well as favorable for the growth of crops. The temperature was above normal until the last week, when a rather sharp, cool period occurred from the 27th to 30th, which checked the growth of vegetation and gave plants an unhealthy appearance in some sections. Light frosts were general in the mountain region on the 28th, 29th, and 30th, with some damage to tender vegetation. There was a tendency to drought in many counties during the month, but while the rainfall was considerably below the seasonal average, light showers were so frequent that the staple crops did not suffer materially from lack of sufficient moisture; still transplanting tobacco was delayed at many places by lack of "seasons" at the proper moment, and dry weather toward the close of the month caused late cotton to come up poorly. Crops were maintained in a high state of cultivation, and were quite free from grass and weeds.—*C. F. von Herrmann.*

North Dakota.—Seeding was interrupted and retarded during the fore part of the month by heavy rains, low ground being so flooded that it could not be worked. The latter part was more favorable, and most of the crops had been planted at the close of the month, except flax, which was only about half in. Owing to its wet condition, considerable area of land in river bottoms was not seeded.—*B. H. Bronson.*

Ohio.—The temperature for May was slightly above normal. The hottest weather occurred from the 19th to the 22d, and the coldest days were the 10th, 28th, and 29th. The precipitation was deficient in central districts and in excess in the extreme north and along the Ohio River. The accumulated deficiency at Columbus since January 1, 1902, is 8.86 inches. High winds have been frequent during the month. The general condition of crops at the end of the month was but fair. Wheat was

heading low and many fields were thin on the ground; oats were growing slowly; rye and barley were doing well; corn was uneven, due to cool weather and damage by cutworms; pastures were poor, and grass fields and meadows were generally short; a light hay crop was indicated; fruit in general was in poor condition.—*J. Warren Smith.*

Oklahoma and Indian Territories.—Frequent and heavy rains during the month were beneficial to the crops, but caused considerable damage on lowlands; wheat made a good growth, and the early soft wheat had matured and was ready to harvest at the close of the month; corn and cotton made a rapid growth, and generally were up to good stands but needed cultivation; oats, barley, and rye were in fine condition and well headed; potatoes were matured, with a large crop in prospect; kaffir and broom corn, cane, millet, grass, stock, and gardens doing well.—*C. M. Strong.*

Oregon.—Vegetation in general made satisfactory advancement during the month, but the weather was too cool for the best development of grain and the rapid growth of garden truck. Light frosts were of frequent occurrence, but, as a rule, they did little or no damage. At the close of the month fall wheat had begun to head and, although quite weedy, was generally thrifty and promising.—*Edward A. Beals.*

Pennsylvania.—The rainfall for the month was less than 2 inches over the eastern half of the State and from 2 to 4 inches over the western half. Droughty conditions, especially over the eastern half, began to injuriously affect agricultural interests during the latter part of the month. Damaging frosts occurred on the 28th and 29th and considerable injury was done to small fruit and tender vegetables.—*T. F. Townsend.*

Porto Rico.—Agricultural interests generally have suffered injury and some material loss from the heavy and continuous rains of the month, especially during the latter half, when practically all farming operations had to be suspended. Mature canes could not be cut, the juice deteriorated in quality and the young ratoons were seriously damaged, although the young canes already well established seem to have made some advance. Some tobacco was cut and seeds gathered for the new planting, but the growing plants were greatly damaged by the weather. The coffee trees, though quite promising up to the middle of the month, began to shed their berries, owing to the heavy rainfall, and by the end of the month the prospects for the new crop were not so bright. For the same reason, the orange trees began to prematurely shed their blossoms, thus endangering the new crop. The cultivation of small crops was carried on as the weather would permit.—*E. C. Thompson.*

South Carolina.—The temperatures were favorable until near the close of the month, when unseasonably cool weather, with light frosts in the western portion, slightly checked growth. The rainfall was deficient over the western half of the State and along the immediate coast. Destructive hailstorms occurred on the 3d and 25th, and destructive winds on the 25th. The condition of corn, cotton, tobacco, and rice was very good, owing to the favorable weather, while in places it was too dry for maturing wheat and oats. Harvesting the latter grain made fair progress. Fields were well cultivated and generally free from grass and weeds. Peaches, pears, and apples dropped to a considerable extent, impairing the previous favorable prospects for a large fruit crop. Truck continued to come to maturity and extensive shipments were made. The general crop prospects were very bright at the close of the month. Stands of corn were damaged by worms, but stands of cotton were nearly perfect.—*J. W. Bauer.*

South Dakota.—A storm of tornadic character, with a funnel-shaped cloud, formed on the 17th in northwestern Faulk County and passed northeastward into southeastern Edmunds County, in its progress killing one child, destroying some unoccupied and isolated buildings, two farm dwellings, several barns, and injuring some cattle. Except that corn planting was somewhat delayed by rains and the growth of this crop was kept a little behind the season by cool nights and consequently cool soil, the weather conditions were generally favorable for all vegetation, especially small grains and grasses, and at the close of the month the general crop outlook was very gratifying, although the stand in some fields of corn had been somewhat reduced by cutworms. There was frost in eastern sections on the 27th, generally light, but no material injury resulted therefrom.—*S. W. Glenn.*

Tennessee.—The first week of the month was warm and humid, and vegetation made very rapid growth. The weather continued warm and favorable for agricultural interests until about the 24th, when a cool spell set in and lasted until the end of the month; light frosts were reported on the 27th and 28th in the highlands, but without material damage. At the end of the month corn was in fine condition; cotton was also promising a good crop; tobacco was mostly transplanted and doing well; wheat was ripening, with indications of a very poor yield; apples were reported scarce, and peaches were falling off badly.—*Roscoe Numm.*

Texas.—The weather during the month was quite favorable to all agricultural interests throughout the State, and the growth and development of vegetation was unusually rapid. At the close of the month the cotton crop was never in better condition; the early planting was generally in bloom, and that seeded late was up to excellent stands and forming squares. The progress of corn was highly satisfactory until the last decade of the month, when the general condition of this crop was somewhat lowered on account of the lack of sufficient moisture. The harvesting of wheat and oats became general about the second decade, and at

the close of the month much of this work had been completed, and considerable thrashing had been done. While the quality of these crops was good the yield was much below the average. The marketing of fruit and melons began early in the month, and the yields from these crops were very satisfactory. A marked improvement was noted in the condition of ranges, and stock did exceptionally well.—*Edward H. Bowie.*

Utah.—The low temperatures from the 18th to 21st did considerable damage to fruit and tender plants in localities of the middle and southern sections. On the whole, crops did well and were in good condition at the close of the month.—*L. H. Murdock.*

Virginia.—The progress of crops throughout the month was retarded by occasional unseasonably cool weather and want of moisture. Field work advanced rapidly. Fall sown crops made little improvement, wheat heading low and winter oats being practically a failure. Spring oats and corn did well. A portion of the tobacco crop was transplanted, some of which was killed by subsequent unfavorable weather.—*Edward A. Evans.*

Washington.—The month was pleasant and favorable for crops, although cold rains injured several kinds of fruit, and it was a little too wet for potatoes on the lowlands. The abundant rainfall in the eastern section was very favorable for wheat and other small grain, as well as clover and alfalfa. Most crops were doing well, though later than usual, owing to cool and unfavorable March and April weather.—*G. N. Salisbury.*

West Virginia.—The low minimum temperatures of the 9th and 10th, together with the dry weather, were rather unfavorable for crop growth.

The good rains of the 24th and 25th revived crops, and at the close of the month wheat, rye, and oats were doing fairly well, but wheat was short and thin on the ground, and the prospect was for not more than half a crop. Meadows and pastures were improving, but a light yield of hay was expected. Potatoes were growing well and were very promising. The prospects were for rather poor crops of apples and peaches, as they were dropping considerably. During the last week locusts made their appearance in Boone and Berkeley counties.—*E. C. Vose.*

Wisconsin.—The month was characterized by heavy and almost continuous rains, especially in western and central counties, where the total monthly precipitation exceeded 10 inches. In the northern and eastern counties the rainfall was copious but not excessive. Corn and potato planting was delayed by the rains until near the end of the month. Winter wheat, rye, oats, and barley made very rapid growth, and meadows gave promise of a heavy hay crop. The condition of the apple crop declined somewhat toward the end of the month on account of blight. Small fruits generally promise a good yield.—*W. M. Wilson.*

Wyoming.—Except over a few sections of the State where the rainfall was very deficient the month was favorable for the range, but by the close of the month a good general rain was needed. Grain, meadows, and alfalfa made good growth. The general snow and rain of the 19th was severe on lambs and many perished, although the loss was comparatively small, and was more than compensated for by the benefit which the range received from the storm.—*W. S. Palmer.*

In the following table are given, for the various sections of the climate and Crop Service of the Weather Bureau, the mean temperature, the stations reporting the highest and lowest temperatures with dates of occurrence, the stations reporting greatest and least monthly precipitation, and other data, as indicated by the several headings.

Summary of temperature and precipitation by sections, May, 1902.

Section.	Temperature in degrees Fahrenheit.						Precipitation in inches and hundredths.					
	Section average.	Departure from the normal.	Monthly extremes.				Section average.	Departure from the normal.	Greatest monthly.		Least monthly.	
			Station.	Highest.	Date.	Station.	Lowest.	Date.	Station.	Amount.	Station.	Amount.
Alabama	75.4	+3.7	Gadsden	100	28	Hamilton	42	28	Flomaton	7.65	Hamilton	0.41
Arizona	69.7	-1.3	Aztec	111	29	Ashfork	17	20	Showlow	2.07	Number of stations.	0.00
Arkansas	73.2	+3.1	Arkadelphia	100	22	Witts Springs	44	1	Rosadale	8.44	Batesville	1.73
California	60.8	-2.4	Imperial	113	28	Wiggs	10	2, 20	Crescent City	6.29	24 stations	0.00
Colorado	55.1	+0.9	Blaine	96	2	Bodie	11	6	Wray	7.00	Buena Vista	0.10
Florida	77.7	+2.1	Macleenny	101	26	Breckenridge	51	7	St. Andrews Bay	7.81	Titusville	0.27
Georgia	75.5	+3.8	Millen	102	3	Lake Butler	29	29	Waycross	6.65	Canton	0.29
Idaho	53.1	-0.4	Garnet	103	27	Wausau	41	28	Priest River	5.18	Garnet	0.16
Illinois	65.9	+3.9	St. John	97	20	Alpharetta, Ramsey	16	19	Mattoon	11.00	Morrisville	1.02
Indiana	66.3	+3.4	Vincennes	98	18	Burnside	32	15	Paoli	9.31	Evansville	1.30
Iowa	63.8	+4.1	Washington	20, 22	20	Sycamore	29	8	Grand Meadow	18.04	Washta	0.87
Kansas	68.4	+3.9	Sigourney	97	20	Connorsville	25	10	Fredonia	11.40	Ness City	2.37
Kentucky	70.0	+3.5	Hays	101	2	Creco	35	7	Frankfort	6.53	Henderson	1.37
Louisiana	76.9	+2.7	Paducah	98	20	Eureka Ranch	25	7	Alexandria	9.00	Port Eads	1.09
Maryland and Delaware	63.9	+1.2	Hopkinsville	23	23	Anchorage	35	28	Deer Park, Md.	4.76	Taneytown	0.73
Michigan	55.4	+1.0	Collinsville	98	25	Farmerville	46	8	Gaylord	8.80	Ewen	0.70
Minnesota	57.0	+2.0	Covington	26	26	Warroad	17	1	Caledonia	11.13	Wyoming	2.57
Mississippi	76.2	+3.7	Lafayette	28	28	Corinth	45	28	Pearlington	6.82	Palo Alto	0.49
Missouri	69.4	+4.6	Boetherville, Md.	98	20	Ironton, Potosi	39	28	Wheatland	9.93	Marble Hill	1.64
Montana	53.4	+0.8	Allegan	92	18	Custer	17	5	St. Peters	6.62	Dell	0.42
Nebraska	63.3	+3.6	Plymouth	19	19	Fort Robinson	28	5	Holdrege	10.08	Lyons	0.75
Nevada	53.7	-1.0	Stanton	22	22	Monitor Mill	16	2	Lee	1.46	Several stations	0.00
New England	54.1	-1.2	Pokegama Falls	95	19	Chelsea, Vt.	19	10	Stratford, N. H.	5.43	Nantucket, Mass.	0.74
New Jersey	60.3	-0.3	Aberdeen	100	25	Layton	29	14	Riverside	4.63	Layton	1.11
New Mexico	62.5	+1.1	Poplar Bluff	98	25	Winsors	24	22	Folsom	3.82	3 stations	0.00
New York	54.5	-1.0	Billings	94	29	4 stations	17	10, 11	Adams Center	6.16	Southampton	0.80
North Carolina	69.5	+2.4	Franklin	102	3	Brevard	31	81	Tarboro	4.83	Morgantou	0.62
North Dakota	55.9	+4.6	Rioville	102	28	Milton	24	8	Milton	4.98	McKinney	0.78
Ohio	62.6	+1.7	Nashua, N. H.	92	23	Hillhouse	40	10	Rocky Ridge	8.92	Lima	0.87
Oklahoma and Indian Territories	71.2	+2.0	Bridge-ton, Paterson	95	23	Kenton, Okla.	24	1	Blackburn, Okla.	20.18	Tahlequah, Ind. T.	3.42
Oregon	54.8	-0.7	Carlbad	102	24	Bend	17	19	Glenora	7.84	Vale	0.39
Pennsylvania	59.8	+0.2	Primrose	92	23	Saegerstown	25	10	Warren	4.45	Harrisburg	0.29
Porto Rico	77.9	Southern Pines	99	6	Dushore	56	14	La Marias	81.78	Aguine	3.96
South Carolina	74.0	+2.4	Coal Harbor	94	29	Barros	9	13, 78	Temperance	6.53	Liberty	0.29
South Dakota	60.1	+3.0	Minot	30	30	Liberty	42	29	Ipswich	8.35	Pierre	0.81
Tennessee	71.6	+4.0	Plattsburg	98	21	Health Springs	26	10	Clarksville	7.09	Lafayette	1.21
Texas	75.8	+2.5	Goodwater, Ind. T.	101	25	Leola	26	10	Wichita Falls	11.05	El Paso	T.
Utah	56.2	-0.5	Pine	102	27	Rugby	32	28	4 stations	2.24	4 stations	T.
Virginia	66.5	+1.9	Wilkesbarre	95	23	Tulia	38	6	Farmlville	4.70	Farmlville	1.30
Washington	55.4	0.0	Bayamon	96	10	Tropic	13	21	Clearwater	6.44	Elensburg	0.66
West Virginia	65.2	+2.6	Blackville	101	4	Burkes Garden	29	10	Pickens	6.09	Cairo	1.30
Wisconsin	57.9	+1.9	Cherry Creek	93	13	Cle Elum	28	4	Prairie du Chien	11.84	Hayward	1.28
Wyoming	52.5	+0.9	Ipswich	28	28	Moxee	18	10	Fort Laramie	3.61	Centennial	0.16
			Hollivar	98	22	Terra Alto	25	10				
			Fort McIntosh	110	19							
			Green River	99	20, 30							
			Lincoln	98	24							
			Pasco	96	26							
			Cairo	98	13							
			Glenville	22	22							
			Butternut	92	18							
			Grantsburg	93	30							
			Hyattville	93	30							